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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,799	02/10/2004	Mark Gurvich	PWVI.PAU.53	9672

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EXAMINER

NGUYEN, KHANH V

ART UNIT

PAPER NUMBER

2817

DATE MAILED: 06/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary	Application No. 10/775,799	Applicant(s) GURVICH ET AL.	
	Examiner Khanh V. Nguyen	Art Unit 2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10, 11, 16-20, 23-26, 28-30 and 33-40 is/are rejected.
- 7) ☒ Claim(s) 8, 9, 12-15, 21, 22, 27, 31 and 32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some * c) ☐ None of:
 - 1. ☐ Certified copies of the priority documents have been received.
 - 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claims 13-15 are objected to because of the following informalities: claim 13 should be read as – wherein said variable frequency down converter comprises a variable frequency signal generator controlled by said controller and a mixer [,] coupled to receive the variable frequency signal and the sampled output signal, for converting the frequency of the **reduced carrier** sampled output signal to a lower frequency signal.-- *Note*: “a mixer” that receives the “variable frequency signal” from “frequency generator (835)” and the “sampled output signal via coupler (235).

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 3, it is not clear which “the signal path through the error amplifier (400) has an associated **third delay** ...” *Note*, applicant’s invention disclosed delays (250, 330) which can be read as a third delay. However, neither delay (250, 330) is connected in a same path as the error amplifier (400), see Figures.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4-7, 16, 26, 28-30, 33-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Gomez (6,275,106).

Regarding claims 1, 2, 16, 28, 29, 33, Gomez (Fig. 1) discloses a feedforward amplifier comprising: an input (11); a main amplifier (20); output sampling coupler (25); a first delay (24); a carrier cancellation combiner (60); an error amplifier (40); a second delay (17); an error coupler combining (47); an output sampling coupler (19); a carrier signal reduction (OUT) via the output sampling coupler (19); and elements (30-35, 70-79) can be read as a spurious signal detector including a local oscillator (75) which can be read as a variable frequency down converter and a memory buffer (79) can be read as a DSP; and a DSP controller (50) which can be read as a controller, wherein the components of the reference circuit having the connections and functions thereof.

Regarding claim 4, Gomez discloses a gain and phase adjuster (44, 45) controls by controller (50).

Regarding claim 5, Gomez discloses a gain and phase adjuster (14, 15) controls by controller (50).

Regarding claim 6, Gomez discloses a predistorter (16).

Regarding claim 7, wherein an input sampling coupler (46) and a control select (30) can be read as a second carrier cancellation combiner having the connections and functions thereof.

Regarding claim 26, wherein the lower power carrier component is inherently seen output from terminal (35) since most since majority of the power carrier component is already canceled via carrier cancellation loop.

Regarding claims 30, 34, 35, wherein the feedforward amplifier Gomez comprises controller for controlling the gain and phase adjuster thereby minimizes the detected distortion.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 10, 11, 17-20, 23-25, 36-39, 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gomez.

Regarding claims 10, 11, 23, 24, wherein the characteristics in the recited claims can be obtained by changing the size of that particular component. A change in size is generally recognized as being within the level of ordinary skill in the art to provide optimum performance in a feedforward circuit.

Regarding claims 17-20, 36-39, Gomez discloses the claimed invention except the second delay is less than the first delay or the delay characteristics in claims 17-20. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have change the size of the second delay (9) to obtain such desired characteristics, since such as modification would have involved a mere change in the size of a delay. A change in size is generally recognized as being within the level of ordinary skill in the art.

Regarding claims 25, 40, Gomez discloses the claimed invention except the bandwidth of the input signal is 5 MHz or less. It would have been an obvious matter of preference if not an intended use of the invention to utilize such a desired bandwidth, since applicant has not disclosed that specified bandwidth solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the claimed bandwidth.

Allowable Subject Matter

Claims 8, 9, 12-15, 21, 22, 27, 31, 32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 8, 9 call for, among others, an output delay having the connection thereof.

Claims 12, 27, call for, among others, a carrier component about 15-20 dB.

Claims 13-15 call for, among others, frequency generator controlled by the controller to produce a lower frequency.

Claims 21, 22 call for, among others, a third control loop comprises a delay and gain and phase adjusting having the function thereof.

Claim 31, 32 call for, among others, step of iteratively repeating said adjusting of amplitude and phase until the energy measured at the down converted frequency is less than a desired intermediate frequency threshold level.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh V. Nguyen whose telephone number is (571) 272-1767. The examiner can normally be reached from 8:00 AM - 3:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571) 272-1769. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Art Unit: 2817

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Khanh V. Nguyen', with a long horizontal flourish extending to the right.

KHANH V. NGUYEN
PRIMARY EXAMINER